

WHAT IS CLAIMED IS:

1. A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

5 detecting an output voltage value or command value of the inverter (4), and  
controlling a voltage or current of the inverter (4) based upon the detection value so that the output voltage value or command value of the inverter (4) does not exceed a predetermined value.

10 2. A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

detecting an output voltage value or command value of the inverter (4), and  
15 controlling a voltage or current of the inverter (4) based upon the detection value so that the output voltage value or command value of the inverter (4) does not exceed a predetermined value, taking precedence over suppression of rotation speed variation.

3. A motor control method as set forth in claim 1 or claim 2, wherein the  
20 detection value is a peak value of the output voltage value of the inverter (4) or the command value.

4. A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress  
25 rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

decreasing an amplitude of an output torque variation of the motor (5), and  
controlling a voltage or current of the inverter (4) so that the output voltage

value or command value of the inverter (4) does not exceed a predetermined value.

5. A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

detecting a current of the inverter (4) using current detection means (11c), and  
controlling a voltage or current of the inverter (4) based upon the current detection value so as not to exceed the current detection extent.

6. A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

detecting a current of the inverter (4) using a current detection section (11c) for driving the motor (5), and

controlling a voltage or current of the inverter (4) based upon the current detection value so as not to exceed the current detection extent, for driving the motor.

7. A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

decreasing an amplitude of an output torque variation of the motor (5), and  
controlling a voltage or current of the inverter (4) so as not to exceed the current detection extent.

8. A motor control method as set forth in one of claims 5-7, wherein the output current of the inverter (4) is indirectly detected by detecting an input current of

the inverter (4) using the current detection section (11c), and wherein the voltage or current of the inverter (4) is controlled so that the peak value of the input current of the inverter (4) in negative side does not exceed the predetermined value.

5           9.           A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the method comprising the steps of:

          detecting or estimating load, and

10           not suppressing rotation speed variation of the motor (5) in correspondence with the load being smaller than a predetermined value.

          10.           A motor control method as set forth in claim 9, wherein the load is detected or estimated by means of an average current.

15           11.           A motor control method for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), wherein a converter (7) is provided which can control a direct current voltage supplied to the inverter, the method comprising the steps of:

          detecting an output voltage value or command value of the inverter (4), and

          controlling the voltage or current of the inverter (4) based upon the detection value so that the output voltage value or command value of the inverter (4) does not exceed the predetermined value.

25           12.           A motor control method as set forth in claim 11, wherein the direct current voltage supplied to the inverter (4) is controlled based upon the detection value.

13. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus comprising:

5 a detection section (18) for detecting an output voltage value or command value of the inverter (4), and

an inverter control section (15) for controlling a voltage or current of the inverter (4) based upon the detection value so that the output voltage value or command value of the inverter (4) does not exceed a predetermined value.

10 14. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus comprising:

15 a detection section (18) for detecting an output voltage value or command value of the inverter (4), and

an inverter control section (15) for controlling a voltage or current of the inverter (4) based upon the detection value so that the output voltage value or command value of the inverter (4) does not exceed a predetermined value, taking precedence over suppression of rotation speed variation.

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15. A motor control apparatus as set forth in claim 13 or claim 14, wherein the detection value is a peak value of the output voltage value of the inverter (4) or the command value.

25 16. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus comprising:

a section for decreasing an amplitude of an output torque variation of the motor (5), and

an inverter control section (15) for controlling a voltage or current of the inverter (4) so that the output voltage value or command value of the inverter (4) does not  
5 exceed a predetermined value.

17. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus comprising:

10 a current detection section (11c) for detecting a current of the inverter (4), and  
an inverter control section (15) for controlling a voltage or current of the inverter (4) based upon the current detection value so as not to exceed the current detection extent.

15 18. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus comprising:

a current detection section (11c) for detecting an input current or output current  
20 of the inverter (4), for driving the motor (5), and  
an inverter control section (15) for controlling a voltage or current of the inverter (4) based upon the current detection value so as not to exceed the current detection extent, for driving the motor.

25 19. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus comprising:

a section for decreasing an amplitude of an output torque variation of the motor (5), and

an inverter control section (15) for controlling a voltage or current of the inverter (4) so as not to exceed the current detection extent.

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20. A motor control apparatus as set forth in one of claims 17-19, wherein the current detection section (11c) indirectly detects the output current of the inverter (4) by detecting the input current of the inverter (4), and wherein the inverter control means (15) controls a voltage or current of the inverter (4) so that the peak value of the input  
10 current of the inverter (4) in negative side does not exceed a predetermined value.

21. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress rotation speed variation of the motor (5) which drives periodic load (6), the apparatus  
15 comprising:

a load detection section (20) for detecting or estimating load, and

an inverter control section (15) for not suppressing rotation speed variation of the motor (5) in correspondence with the load being smaller than a predetermined value.

20 22. A motor control apparatus as set forth in claim 21, wherein the load detection section (20) detects or estimates load by means of an average current.

23. A motor control apparatus for controlling a voltage or current applied to a motor (5) from an inverter (4) for varying motor output torque so as to suppress  
25 rotation speed variation of the motor (5) which drives periodic load (6), wherein a converter (7) is provided which can control a direct current voltage supplied to the inverter (4), the apparatus comprising:

a detection section (18) for detecting an output voltage value or command value

of the inverter (4), and

an inverter control section (15) for controlling a voltage or current of the inverter (4) based upon the detection value so that the output voltage value or command value of the inverter (4) does not exceed a predetermined value.

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24. A motor control apparatus as set forth in claim 23, further comprising a direct current voltage control section (21) for controlling the direct current voltage supplied to the inverter (4) based upon the detection value.